"Make Energy a Consideration in All We Do"

energyexpress

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UP marks 15 years of success

Program to continue through 2021

by Jennifer McCabe
AFCEC Public Affairs

When you flip the switch – lights come on – and when you turn the faucet – water comes out. The base utility system works, but what kind of condition is it in and is it in danger of failing?

Building sustainable Air Force installations requires an investment in dependable energy-efficient utility systems. For the past 15 years, the Air Force has used utilities privatization as a means to upgrade utility systems. According to engineers at the Air Force Civil Engineer Center, the Air Force has privatized 62 systems creating a cost avoidance of $329 million. Eighty-seven systems, including electric, gas, water and wastewater, are in various stages of the privatization process.

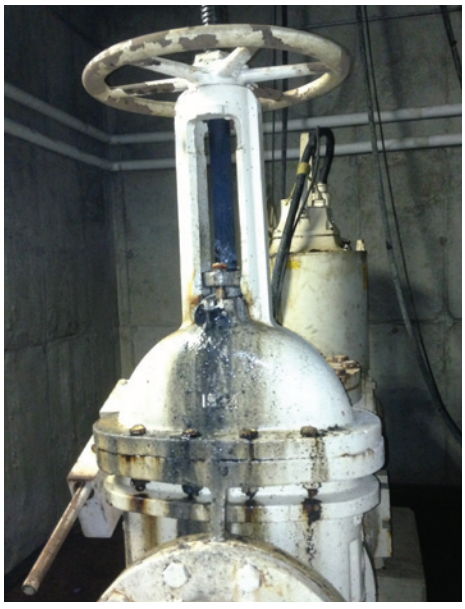
"Utilities Privatization allows military installations to obtain safe utility systems that meet and maintain current industry standards," said Rick Weston, who leads AFCEC's UP Program Management Office.

In the privatization process, military installations shift from the role of owner-operators to that of smart utility service customers.

"Historically, bases have been underfunded," explained Weston. "Over the past 20 or 30 years, maintaining Air Force utility systems was not a high priority. Consequently, our systems have degraded substantially."

Weston said Congress and the Secretary of Defense prefer to privatize systems in an effort to get out of the utilities business.

"Private industry does it day in and day out, so they can normally do it cheaper than we can," said Weston.



MINOT AIR FORCE BASE, N.D. -- Engineers at the Air Force Civil Engineer Center said this sewage pipe in a lift station here has leaked for several years. It's one of many upgrades and repairs that will be made once the wastewater and water systems are privatized in February 2014. (U.S. Air Force photo/Rick Weston)

There are success stories across the country.

"Before privatization, we had to Band-Aid the 50-year-old water system at Scott Air Force Base, Ill., nearly once a month," said Air Mobility Command Infrastructure Program Manager Pam Wood.

Nearly 40,000 base personnel and visitors depend on the six-mile water line that runs from the city of Belleville to the installation.

"We could never get the funding to get the water line repaired and replaced," said Wood. "Since we've privatized, that line and $16 million worth of water lines on base have all been replaced. They did a hydraulic modeling of the system and reduced pipes in some places and increased them in others. The system is much more efficient now."

The new system owner took over in 2008 and improvements were completed in 2012.

Scott Operations Flight Deputy James Route said, "We eliminated several potential security, health and operational risks associated with the water system. We improved the water pressure, which is good for firefighting and industrial use, and heating, ventilation and air

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Department of Energy program director visits AFCEC

by Jennifer McCabe
AFCEC Public Affairs

The director of the Federal Energy Management Program at the Department of Energy, Dr. Tim Unruh, met with energy engineers at the Air Force Civil Engineer Center here in late November. The purpose of the trip was to strengthen and expand the partnership between the two agencies.

Discussions centered on Energy Savings Performance Contracts; a new presidential memo expected to be released this month that will toughen renewable energy goals; and FEMP training opportunities.

"I consider this group to be my customer," said Unruh. "I want to learn how my program can serve you better than it is today. I want to hear if you're having challenges or problems. If the energy reporting is harsh and you have ideas for improving it, I'd love to hear them."

Unruh's visit is a follow up to one a year ago when he attended AFCEC's Energy Savings Performance Contract rapid improvement event. AFCEC uses FEMP's indefinite delivery indefinite quantity contract to award ESPCs to energy service companies. Since the RIE, AFCEC has rewritten the ESPC Engineering Technical Letter that provides technical guidance to bases and major commands on how to execute an ESPC project; created an engagement policy between the Air Force and ESCOs; and centralized the ESPC contracting process at AFCEC. The Air Force also awarded one ESPC in Texas and released four notices of opportunity in Georgia, Colorado, California and Ohio.

Unruh said FEMP is developing a national ESPC project database to give all agencies access to benchmark data.

"You and I know it's hard to compare most projects, but we hope if we get a lot of them together, we'll start to see an average."

Federal Energy Management Program Director Tim Unruh (second from left) visited AFCEC the end of November to meet with leaders of the Energy Directorate. The group discussed Energy Savings Performance Contracts, FEMP training opportunities and energy reporting requirements, among other topics. Pictured L to R: Ken Gray, Renewable Energy division chief; Unruh; David McGeown, FEMP; David Bek, Energy Director; Ken Gleason, Energy Program Development chief; and Les Martin, ESPC program manager. (U.S. Air Force photo/Eddie Green)

The ESPC database project is a partnership between FEMP and Lawrence Berkeley national lab and will include federal, state and local projects. FEMP is working on security aspects now and wants to make entering information an ESCO responsibility and part of the contract. Phase one of the database is expected to be complete in June 2014.

"Everyone does ESPCs differently and uses different terms to describe the same thing," said Unruh. "We're trying to develop some standards."

The Council of Environmental Quality is leading the effort to standardize ESPCs along with the Army Corp of Engineers through the Office of Federal Procurement Policy.

Meeting participants also discussed a draft presidential memo. If signed, the "Federal Leadership on Energy Management" Executive Order would require federal agencies to use 20 percent renewable energy by 2020. Currently, the goal is 7.5 percent. Preliminary numbers from fiscal 2013 show the Air Force used 9 percent.

During the visit, Unruh also announced that FEMP has received "authorized provider" designation from the International Association for Continuing Education and Training. IACET-accredited FEMP training courses help prepare building personnel for higher-level clean energy jobs in renewable technology, facility management and building automation systems.

The courses are free, open to the public, self-paced and accessible 24 hours a day. To register for FEMP training and receive IACET continuing education credit, visit http://apps1.eere.energy.gov/femp/training/index.cfm.

UP...15 Years of Success

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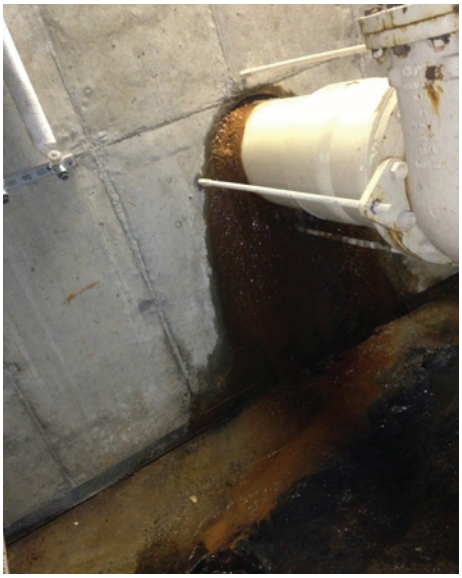
conditioning systems now have reliable water."

UP leaders say bases do not lose manpower positions and Airmen still receive training.

"We put the Career Field Education Training Program, or CFETP, document in our contract, which makes the contractor the trainer," explained Master Sgt. Joe Evett, UP contract representative, Travis AFB, Calif. "They schedule training on a monthly basis and if the military electrical shop decides they want some other type of training, they can request it at any time."



MINOT AIR FORCE BASE, N.D. -- The Air Force has privatized 62 electric, water, wastewater and natural gas systems in the last 15 years. These leaky pipes are part of the base's wastewater system set to be transferred via a 50-year utilities privatization contract in February 2014. The UP contract will provide the funds necessary for system upgrades. (U.S. Air Force photo/Rick Weston)

There are 37 systems at 22 bases set for award decisions in fiscal 2014. An additional 143 systems need to be reviewed.

"There are instances in remote locations, or on bases that don't have much utility infrastructure around the base, where it's not economically advantageous for a utility company to come in and do this," said Weston. "We're not going to pay extra. We only privatize if it's economically feasible for the Air Force."

Weston said a properly maintained system increases energy security and mission effectiveness. Tyndall AFB, Fla., has averaged a 90 percent reduction in building power outages since privatization improvements.

The Air Force is congressionally mandated to review its utility systems for privatization. The UP program is scheduled to be complete in 2021, however, fiscal constraints could slow down the process.

AF's largest solar project -- done!

Engineers at Davis-Monthan AFB, Ariz., and Sun Edison are planning a ribbon cutting for mid- February to commemorate the completion of a 16.365 MWDC solar project which includes a 50-acre array (top) and a 120-acre array (bottom). An average savings of $500K annually is expected.

energyquiz

What amount of cost avoidance has the UP program created for the Air Force?

Answer on the back page

Asset visibility teams help save energy and money

by Patrick Kelly
AFCEC/COAT

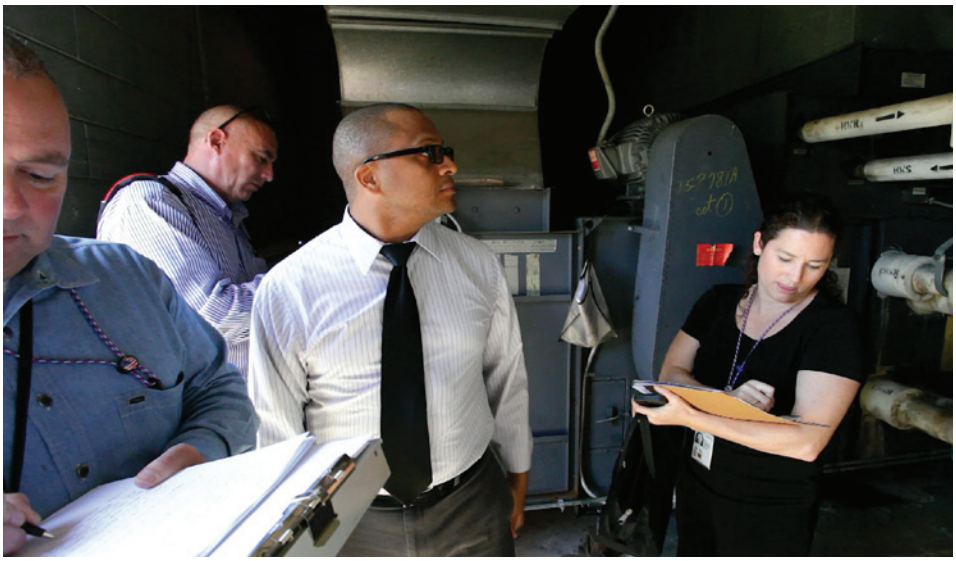
Managing energy and infrastructure assets across the Air Force to meet the Energy Independence Security Act of 07 goals is a difficult task for the Civil Engineer enterprise and recent fiscal constraints make the job harder. The Asset Visibility team is working to collect data to make meeting those goals a little easier.

The Air Force Civil Engineer Center created the Asset Visibility Division to help bases standardize, collect and maintain accurate energy, facility and infrastructure performance data.

To date the team has completed assessments at four bases; Tyndall Air Force Base, Fla., Eielson AFB, Alaska, Hill AFB, Utah, and Eglin AFB, Fla. The report for Tyndall is complete and is available on the CE portal. The other reports are pending and will be posted when complete.

Josuelito Worrell is a member of the AFCEC Asset Visibility Team headquartered at Tyndall AFB, Fla. One of the AVT's responsibilities is to identify energy and water-saving opportunities. (U.S. Air Force photo/Eddie Green)

At Tyndall, the AVT assessed 26 facilities (683.6K square feet of facility space) and identified 65 Energy and Water Conservation Measures with a savings to investment ratio ≥1. For these opportunities the overall estimated investment cost is $2,622,030 which if executed, will generate an estimated cost savings of $7,592,478. The total energy savings are estimated at 14.8 million BTUs.



As members of the AFCEC Asset Visibility Teams, (L to R) Mike Cowan, Bill Hawkins, Brad Scott and Judy Biddle assess mechanical systems at Tyndall AFB, Fla. So far, they have assessed 1.4M square feet at Tyndall and Eielson Air Force Bases. Two 12-member AVTs, will travel to as many as 24 bases a year. (U.S. Air Force photo/Eddie Green)

Of the 65 opportunities, the team determined there are 20 "Just Do It" ECM/WCM opportunities. "Just Do It" opportunities are high payback low cost initiatives. For example, at Tyndall, a small investment of $50,000 could harvest the Air Force $1.3 million in energy savings. AFCEC is seeking central funding for JDI opportunities for all AVT visits.

At Tyndall, the team also identified three mid-term initiatives for retro-commissioning and engaged the Civil Engineer Maintenance Inspection Repair Team at AFCEC. CEMIRT has completed retro-commissioning of one facility and is actively working on the remaining two buildings.

The base will need to program the long-term ECMs/WCMS for future consideration. These measures can be

Asset Visiblity Teams

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included in projects and will compete for funding based upon Air Force facility project business rules.

If your base is scheduled for a visit by the AVT team, here's what you can expect. Prior to base visits, the AVT coordinates with the Energy Directorate, MAJCOMs and Base Personnel to identify facilities that require Level 2 energy audits. Once determined the team coordinates logistics to include scheduling facility visits.

Once at the base, the team conducts an in-brief to explain what they will do and an out-brief identifying potential opportunities. The team then returns back to home station where it conducts analytical review of the data, writes a report and publishes it; normally, 90 days from the team departure.

The next AVT visit is schedule for Vance AFB, Okla. in January and February.

Federal Leadership on Energy Management

President Obama signed a memorandum this month directing the Federal Government to consume 20 percent of its electricity from renewable sources by 2020 – more than double the current level. To read the memo, click here: http://www.whitehouse.gov/the-press-office/2013/12/05/presidential-memorandum-federal-leadership-energy-management

Energy Security News

by Billy Webb
AFCEC Energy Security SME

Two major energy security Engineer Technical Letters were developed during this calendar year to provide guidance to the field.

ETL 13-04, Standby Generator Design, Maintenance, and Testing Criteria will improve the fidelity and accountability of the standby generator inventory for the Air Force. A fillable PDF checklist provides easier documenting, accounting and reporting of generator testing and performance. Also, new fillable PDF authorization and design approval documents are made available for use by bases and MAJCOMs for compiling generator information to rapidly identify deficiencies and efficiencies across each command. Testing and operations and maintenance requirements have been simplified and standardized to eliminate confusion and provide standardized O&M guidance which will improve the ability to determine system reliability and potential vulnerabilities plus increase the reliability of these mission critical assets.

ETL 13-12, Use of Distributed Resources including Energy Storage, Renewable Energy Sources, and USAF Microgrids provides criteria for the use of all distributed resources including energy storage, renewable energy sources and microgrids with respect to the IEEE 1547 and 2030 guidelines. Distributed resources include but are not limited to motor generator systems (portable and in place fueled by diesel, natural gas, jet fuel and biomass and multi-fuel combinations). Energy storage includes batteries (all types), flywheels and pumped water. Renewables include photovoltaic, wind, water and biomass systems. A microgrid is a localized grouping of electrical power generation, energy storage and loads that normally operate connected to a traditional centralized grid. The ETL is in final draft form and being coordinated with MAJCOMs. It is expected to be approved and published in January 2014.

Additionally, a new initiative for the creation of a DoD Unified Facility Criteria (UFC) 3-540-08 for Installation Level (greater than 1MW) Renewable Energy Generation was awarded at the close of FY13. This UFC will provide guidance for the construction and O&M of large solar, wind and waste to energy (solid waste and methane recovery) projects using MILCON as well as third-party financing. This guidance will provide a unified approach for significantly increasing additional renewable sources of power with a focus on meeting the specific and unique requirements of a military environment.

Finally, AFCEC has members participating with a new tri-service working group which was established for energy generation that will coordinate, collaborate and facilitate DoD initiatives that will increase energy security and reliability.

energyquiz

Q. ***What amount of cost avoidance has the UP program created for the Air Force?***

A. ***$329 million***

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